REMARKS

Claims 1-4 are pending in the application. Claims 1-4 have been amended by the present amendment to overcome the rejections under 35 USC 112, second paragraph, but have not otherwise been amended substantively. The amendments are fully supported by the specification as originally filed.

The specification has been thoroughly reviewed and amended to correct inadvertent typographical errors. No new matter has been added.

In the drawings, FIG. 1 has been amended to include the legend "PRIOR ART." It is respectfully requested that the Replacement Sheet of FIG. 1 be approved.

In the Office Action, claims 1, 2, and 4 were rejected under 35 USC 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. Claim 1 has been amended to clarify that the mounting opening is formed in the sound box and connected to one of the air chambers, which incorporates the language suggested by the Examiner. Claim 2 has been amended to clarify that the mounting opening is connected to the first air chamber of the sound box. Claim 4 has been amended to depend from claim 3, thereby providing proper antecedent basis for "the dividers." In view of the above amendments, it is respectfully requested that the rejections under 35 USC 112, second paragraph, be withdrawn.

Applicant's claimed invention is directed to a speaker system including a sound box and a speaker mounted in the sound box. The sound box is divided into a plurality of air chambers, each of the air chambers being formed with at least at least an air passing hole connected to at least a neighboring air chamber, so as to generate a pressurized air cushion corresponding to each frequency band of sound emitted from the speaker, and an air dissipating hole connected to the atmosphere.

The Applicant's claimed invention can provide significant benefits. Upon reaching the air dissipating hole of each air chamber, the pressurized air cushions are depressurized and discharged through the air dissipating holes at appropriate times, such that these air cushions do not interfere with air cushions subsequently formed. Therefore, each frequency band is provided with an appropriate independent air cushion, which enables generation of high fidelity sound frequencies.

Claims 1-4 were rejected under 35 USC 102(b) as being anticipated by U.S. Patent 4,054,748 to Balogh. Claims 1-4 were rejected under 35 USC 103(a) as being unpatentable over U.S. Patent 4,398,619 to Daniel in view of U.S. Patent 5,576,522 to Taso. These rejections are respectfully traversed.

Balogh discloses a directional electro-acoustic converter which utilizes two phase shifting members with different sound route distances to provide for a wide transmission band in loudspeaker operation (see, e.g., FIG. 4, as cited in the Office Action). Specifically, Balogh teaches at least two phase shifting members, each having a particular acoustic resistance (R), acoustic mass (M), and capacity (C) with different sound route distances, so as to achieve directionality as well as a nearly straight frequency characteristic (see, e.g., FIG. 7). Different sound bands are transmitted according to the equations: $\tau = RC = d/c$ and $f = \frac{1}{2} \pi \tau$, where τ is the time constant, c is the velocity of sound propagation in air, and f is the frequency characterizing the frequency response (see column 5, lines 1-18).

The phase shifting members R_x and M_x in Balogh do not correspond to the *air dissipating holes* as recited in claim 1 of the Applicant's invention. Moreover, the $m_c r_c$ elements do not correspond to the claimed *air passing holes* that are connected to neighboring air chambers, as recited in claim 1. In Balogh, although the phase shifting members include apertures, these apertures merely serve to provide sound route distances for the phase shifting members (see column 5, lines 12-18). There is no teaching or suggestion that the apertures in the phase shifting members provide dissipation of the pressurized air cushions from one air chamber to

another and to the atmosphere outside the sound box. Therefore, Balogh cannot achieve different sound frequencies of high fidelity, as taught in the Applicant's invention.

Daniel discloses a loudspeaker cabinet including a front panel 4, a back panel 6, a top panel 8, a bottom panel 9, side panels 10 and 12, a speaker unit 14, and first and second wave reflector panels 18 and 20 (see column 2, lines 35-47) to allow reflection of sound waves within the compartments of the loudspeaker cabinet, so as to provide a "comparable tonal quality of sound" (column 1, line 14). The sound wave reflection is repeated until the sound waves pass through a relief aperture 30. As stated in the Office Action: "Daniel does not specifically teach that each chamber of the sound box is formed with at least an air dissipating hole connecting the atmosphere" (Office Action, page 5, first paragraph).

Taso fails to remedy the deficiencies of the Daniel reference. Taso discloses a tube-annexed speaker cabinet having an air dissipating hole connected to the atmosphere. However, Taso cannot be combined with Daniel to produce the Applicant's claimed invention. Specifically, in Taso, the holes and openings are provided to **vent air** and improve the sensitivity of the speaker at low frequencies (see, e.g., column 3, lines 1-4: "holes 41, 42 allow air to flow in and out of the box 4"). To one of ordinary skill in the art, the holes and openings taught in Taso would result in venting if somehow incorporated into Daniel, and would not allow sound waves to be repeatedly reflected within compartments of the speaker, as desired by Daniel. Therefore, if Taso were combined with Daniel, the resulting combination would destroy the utility of the Daniel reference.

Accordingly, the combination of Daniel in view of Taso fails to teach or suggest the above-mentioned features of claim 1 of the Applicant's invention. Therefore, claims 2-4 are also patentably distinguishable over the combination of Daniel in view of Taso. With reference to claim 3, the pressure relief areas 22, 26 of Daniel are not formed on "dividers" 18, 20, respectively, as stated in the Office Action. Instead, these pressure relief areas 22, 26 are located at the back of the wave reflector panels 18, 20, respectively, such that the sound waves are reflected between the reflector panel and an opposite panel before entering the compartments

OIPE JC109 SEP 23 2003 PATENT & TRADEMARK OFFICE

RECEIVED
SEP 25 2003
Technology Center 2600

(see column 2, lines 2-5 and 8-11, respectively). Therefore, it is necessary for the speaker cabinet of Daniel to have the holes located at the back of the wave reflector panels rather than formed on the dividers, as required in claim 3.

It is believed the application is in condition for immediate allowance, which action is earnestly solicited.

Respectfully submitted,

Date: September 19, 2003

Peter F. Corless (Reg. No. 33,860)
Steven M. Jensen (Reg. No. 42,693)
Dike Bronstein, Roberts & Cushman
Intellectual Property Practice Group
EDWARDS & ANGELL, LLP
P.O. Box 9169
Boston, MA 02209

Phone: (617) 439-4444

Customer No. 21874